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Men's purchase intention of shampoo: a model based on the Theory of Planned Behavior and Self-concept.

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ABSTRACT

This research intends to understand what influences men's purchasing behavior regarding shampoo, and their choice between three different distribution channels: supermarkets, hairdressers or specialized stores and pharmacies. The comprehension of the male personal care behavior is still at an early stage, specifically regarding hair care. We developed a model based on the Theory of Planned Behavior with an extension using Self-Concept. Overall results indicate that the Theory of Planned Behavior presents relevant variables for understanding behavior for every sample; self-concept, however, was only relevant for pharmaceutical shampoo purchasers. We also found similarities between professional and pharmaceutical shampoo when compared to the supermarket channel. Men develop positive attitudes towards their purchase on hairdressers and pharmacies, whereas at the supermarket positive attitudes are irrelevant. Since our model was proven not to possess all the relevant variables further research is suggested to fill this gap.

Key Words: Theory of Planned Behavior, Self-concept, Shampoo and Distribution Channel.

INTRODUCTION

The participation in L'Oréal Brandstorm 2011 sparked the interest for men's hair care, as this year's topic is related to the brand L'Oréal Professionnel Homme (LPH). The initial stages of my research led me to understand that image concerns in society are increasing and have gone beyond the female population; the feminine connotation of these concerns is disappearing, decreasing men's avoidance of such behaviors (Marketing Week, 2005).

Cosmetic products are defined as being substances used to enhance the appearance and/or odor of the human body. In this research we will focus on hair care as to provide LPH with information regarding their core business: shampoo. After an introductory meeting with LPH's Marketing Manager, we understood that market knowledge and research regarding the behavior of the male segment is still at an early stage and therefore, we intend to shed some light on the matter.

Accordingly, the proposal was to understand what are the most important factors leading to the purchase intention of shampoo, relying on an adaptation of the Theory of Planned Behavior (TPB) from Ajzen (1985, 1991). Besides the factors indicated in the TPB model, another crucial issue was suggested and approved by LPH's Marketing manager, as being a relevant antecedent of purchase intention – self-image. As we were studying a product that can relate to how an individual perceives himself, the Marketing manager was very interested on having more information on this topic.

Within the shampoo category there are different subcategories, and normally category managers make the distinction between professional and non-professional shampoo in order to compare consumers' profiles and explore potential differences in consumers' behavior.

LITERATURE REVIEW

Shampoo categories | Shampoo can be categorized according to its distribution channel; **professional** shampoos are available in places where the advice of a hair professional is provided, namely hairdressers or hair care specialized stores. The other relevant categories in the market are **supermarket** shampoo which is sold through mass retailing (e.g., supermarkets and hypermarkets) and **pharmaceutical** shampoo that is sold in (para)pharmacies. The differences in the marketing strategies for each category (e.g., pricing, promotion and product image) are expected to attract different consumer profiles and thus are worth distinguishing to further understand consumer behavior.

The Hair Care Market | The male segment is one where cosmetics' companies have foreseen great opportunities for future growth and have therefore started to explore by creating specific products for this target. Hair care has been the one with the slowest growth pace (4% in 2009) versus skin care (7% in 2009); although it accounts for a larger slice of the market: $2.9 million versus $1.8 million in skin care (Lennard, 2010). This slowdown of growth is due to trading down of consumers from higher priced shampoos such as those sold in salons to lower priced ones; aggressive promotions and discounts, which aimed at stimulating a weak demand also influenced revenues, leading to a lower growth rate for the sector (Euromonitor International, 2010).

For L'Oréal, professional products represent 15% of its cosmetics total revenues, while consumer products[1] represent 53%. As the distinction of shampoo categories is not explicit in their results there is no specific data for pharmaceutical shampoo[2]. Regardless of the much lower importance of the professional segment, this is the most efficient business unit in terms of operating profits as percentage of sales. It was also

[1] These percentages include other products besides shampoo
[2] Pharmaceutical products include far more than shampoos for L'Oréal

the segment to show the highest reported growth rate: 13.8% *versus* 11.5% in consumer products (L'Oréal, 2011a, 2011b).

The Theory of Planned Behavior (TPB)

Model | The TPB (Ajzen, 1985, 1991) has been object of study for the past decades to explain human behavior in specific contexts. It is an extension of the Theory of Reasoned Action (TRA) - developed by Ajzen & Fishbein (1975, 1980) (Ajzen, 1991). While the TRA relied on the assumption that behaviors can be considered only under volitional control, i.e., that a person can easily perform a behavior if it feels inclined to do so, the TPB extended the model by including an antecedent that accounted for non-volitional control (Ajzen, 1985), the perceived behavioral control (PBC).

Purchase intention | The central factor of the TPB model is the **intention** to perform, defined as "a person's readiness to perform a behavior" (Fishbein & Ajzen, 2010:39). It is believed to be the immediate determinant of behavior (Ajzen, 1985; Armitage & Conner, 2001) as it captures the motivations that impact behavior and the extent to which a person is willing to adopt a certain behavior (Ajzen, 1991).

Antecedents | The TPB relies on three antecedents of intention: attitude towards behavior, subjective norm and PBC (Ajzen, 2010). **Attitude towards behavior**, a personal variable, consists in the individual's favorable or unfavorable appraisal of performing the considered behavior (Ajzen, 1991; Fishbein & Ajzen, 2010); **subjective norms** result from the individual's perceptions of social pressures that impose or not the behavior onto himself, reflecting the social influences over the individual (Ajzen, 1985, 1991), and, lastly, **PBC** is "the extent to which people believe that they are capable of performing a given behavior" (Fishbein & Ajzen, 2010:154). Accordingly, the TPB assumes that people intend to perform when they feel positively about the behavior, and

when they feel that those who they consider important believe they should perform it (Ajzen, 1985); lastly, it is more likely that an individual will have a certain behavior if he believes he can pursue the behavior than one that does not.

Another antecedent of intention was added to the model based on a psychology expert suggestion: **past behavior**. It is said that past behavior is the best predictor of later behavior but, according to the sufficiency assumption of the TPB, it should not significantly improve prediction of later behavior when assuming stable determinants. However, if it is in fact considered in the model, it should be used as a substantive predictor serving as reliability assessment of the model for the considered behavior (Ajzen, 1991; Fishbein & Ajzen, 2010).

Since this model has been applied to a variety of behaviors (Sparks & Sheperd, 1992; Kalafatis et al., 1999; Pavlou & Fygenson, 2006; Cannière et al, 2009; Yousafzai & Foxall, 2010), specially in consumer markets, which is the case of our category – shampoo – we propose the following hypotheses:

H1: *Attitudes towards behavior impacts positively on purchase intention of shampoo.*
H2: *Subjective norms impact positively on purchase intention of shampoo.*
H3: *Perceived behavioral control impacts positively on purchase intention of shampoo.*
H4: *Past behavior is not significant for purchase intention of shampoo.*

Self-concept

Self-image and self-concept | As explained previously, self-image is one of the central concepts of our model since it is expected that it will be an antecedent of the purchase intention of shampoo. Hence, the first revision was upon all the existing literature in the marketing and psychology domains, in order to define very precisely this concept – self-image. The concept of **self-image** is understood in the literature as being related to other concepts like **self-concept** or **self-esteem** (as an example see Fein & Spencer (1997)

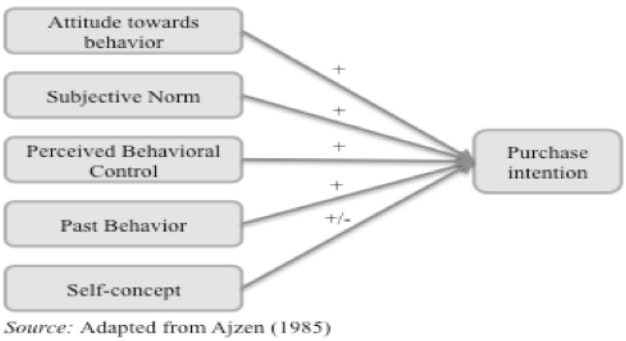
and Simmons & Rosenberg (1973) with these two concepts being also subject to some confusion as self-esteem is often considered to be a measure of global self-concept or to have the same dimensions (Hu & Liu, 2008; Myers et al., 2011). Therefore, all the articles referring to self-image inevitably redirected research towards the self-concept concept; Sirgy et al. (1997), Park & Lee (2005) and O'Cass & Grace (2008) are some examples of such where they all resort to Sirgy's (1982) critical review of self-concept and consumer behavior. The nonexistence of self-image's definition in the American Psychology Association's (APA) glossary also supports this position.

Self-concept | **Self-concept** is defined as "a person's mental model of his or her abilities and attributes" (APA, 2011), i.e., how the person perceives herself (Rosenberg, 1979). The approach to self-concept started in the Psychology area (eg. Brookover et al., 1964; Parker et al., 2008; Martin et al., 2010; Peixoto & Almeida, 2010) but has also been applied to the Marketing field in consumer behavior for a long time (Jacobson & Kossof, 1963; Grubb & Grathwohl, 1967; Gutman, 1973; Landon, 1974) as it is said to shape one's consumption patterns with the objective to maintain or enhance self-concept (Grubb & Grathwohl, 1967; Sirgy, 1982; Solomon, 2006) and, should therefore be a focal point when companies define their target market and product strategy (Yankelovich & Meer, 2006). Self-concept has transitioned from a unidimensional to multidimensional approach, being supported by several authors namely Shavelson (1976), Stake (1994), Harter (1996), Marsh (1996) and Wilson (1998). Scales may include academic, social, emotional and physical self-concept (Shavelson, 1976) while others may include actual and ideal self-concept (Sirgy, 1982) depending on each author's orientation. Global self-concept measures are considered to be excessively broad to be able to predict behaviors (Stake, 1994) and therefore, multidimensionality is

crucial. Lastly, self-concept results from one's reactions to situations and experiences, being either physical or symbolic (Shavelson et al., 1976; Schouten, 1991).

Self-concept and shampoo | The introduction of product symbolism claimed that consumers can be defined by the products they consume (Gardner & Levy, 1955; Levy 1959; Grubb & Grathwohl, 1967; Solomon, 1983; Firat et al., 1995), as a product image is defined beyond its physical characteristics (Sirgy, 1982). Cosmetic products have a direct impact on one's physical appearance – something that affects everyday life as nowadays certain presentation standards are expected by society (Featherstone, 1982) – but are also consumed due to the meaning that their consumption conveys, affecting an individual's sense of control, level of confidence and image (Schouten, 1991; Sturrock & Pioch, 1998). It is the distinction between professional and non-professional shampoo that underpins the utility of self-concept: when comparing them, the different characteristics lead to different levels of quality, different images and, therefore, different perceived impacts on the self-concept. The lack of literature and the variety of self-concept measurements do not allow for the prior definition of relationship signs between self-concept and purchase intention of professional shampoo and hence, the hypotheses are:

H5a: S*elf-concept impacts positively on purchase intention of professional shampoo.*
H5b: *Self-concept impacts negatively on purchase intention of professional shampoo.*



Source: Adapted from Ajzen (1985)

Figure 1 | A conceptual framework of men's purchase intention of shampoo

METHODOLOGY

Data Collection

Sample | Our research goal is to explore a model to explain what impacts the purchase intention of shampoo by men; therefore the filter to select the sample was to choose only **men who purchase their own shampoo**, also guaranteeing that each of the distribution channels were represented – supermarkets, (para)pharmacies and hairdressers.

Procedures | The research method chosen to test the hypotheses was quantitative; measurement allows for the assessment of *fine differences* between individuals in terms of the characteristics considered; to be *consistent* as we are consistent over time and with other researchers, as well as for a higher *precision* in the estimation of the degree of relationship between concepts (Bryman & Bell, 2007). Given the difficulty to accessing enough respondents for each shampoo category sample, we chose to create self-administered questionnaires (Appendix 1), i.e., respondents were requested to complete the questionnaires themselves, to reach a larger number of potential respondents. To collect it we resorted to 2 *non-probabilistic sampling* methods to ensure enough respondents for a valid analysis given the length of the questionnaire and the likely low motivation for its completion:

1. **Self-selection** (Buglear, 2005) consists in sample selection by invitation. This was done through e-mail by asking potential respondents to access the online questionnaire; 50 men were personally e-mailed, 30 people forwarded the invitation and lastly, questionnaires were also distributed by 3 companies: approximately 60 men at Portugal Telecom, 60 at Impala and 40 at Millennium BCP.

2. **Convenience** (Buglear, 2005; Bryman & Bell, 2007) where samples are chosen based on accessibility. For this sampling method L'Oréal's sales force distributed questionnaires in their hairdressers network in Lisbon, and we also collected questionnaires at other 6 hairdressers and 2 gymnasiums in the Lisbon area.

Measures

TPB | Measurements of each construct of the TPB (purchase intention, attitude towards behavior, subjective norms, PBC and past behavior) were done according to the instructions given by Fishbein & Ajzen (2010: Appendix I), with minor changes to certify adaptation within the context of the research.

Self-concept | There are several scales since researchers have developed specific scales according to their interest in the research, and therefore there is a wide range of scales but with a reduced validity (Shavelson et al., 1976). Besides reliability other issues arise when choosing a self-concept scale (SCS): firstly, as self-concept is defended to evolve with age, compatibility between the sample in which the scale was tested and in which it will be administered is crucial and most SCSs are tested in children; secondly, the most widely known scales are used for clinical purposes becoming somewhat inappropriate to use for this research (Shavelson & Bolus, 1982); lastly, scales used in consumer behavior are usually product anchored, not serving our objective. Moreover, some other validity concerns must be kept in mind: the length of the scale, multidimensionality must be portrayed in the SCS, and dimensions must be relevant for the behavior. Some examples of scales that were not appropriate for this study are: Tennessee SCS by Fitts (see scale in Jamaludin et al., 2009), Piers-Harris Children's SCS, Self Description Questionnaire III (SDQ III) and Physical SDQ by Marsh,

Rosenberg Self-Esteem Scale (Rosenberg, 1972), Body Parts Satisfaction Scale (Petrie et al., 2002) SCS developed by Malhotra (1981) and one used by Green et al. (1969).

Due to those limitations we decided to consult two Psychology Professors, who helped us choose the final scale, the Stake's (1994) SCS: the Six-Factor Self-Concept Scale (SFSCS) for adults. It considers self-concept as a self-evaluation of self-descriptions, as suggested by Shavelson & Bolus (1982). The SFSCS measures 6 dimensions: likeability, morality, task accomplishment, giftedness, power and vulnerability, allowing for scores for each sub-scale but also for an overall self-concept score (Stake, 1994; Yanico & Lu, 2000).

Despite being the most suitable for our research, it lacked a relevant dimension for our study, *physical appearance self-concept* – or the *physical self-image*. Since the extensive research in relevant literature could not provide a suitable scale, we decided to develop an exploratory scale with 9-items in likert scale form, with the help of two marketing experienced researchers and the LPH's Marketing manager. Appendix 2 shows all the measurement scales.

Additional considerations

Additional questions | Besides the necessary variables from the model, the questionnaire requests other information: a question to identify the respondent's shampoo category, questions for demographic characterization and two other questions that were built in cooperation with LPH's Marketing manager. One was regarding additional products that the respondent may use besides shampoo, and another asking to rank a list of predefined reasons regarding the most important ones for their choice. This last question was requested only for professional and pharmaceutical shampoo's purchasers

Ethical considerations | Income level was not collected due to *ethical principles* (Bryman & Bell, 2007) alongside with LPH Marketing manager's opinion who asked us not to include it because of the distribution method of the questionnaires, namely in hairdressers among LPH clients. Confidence issues could arise (the respondents would have to answer this question in their hairdresser and hand it out to him/her the answers) and thus, generate non-answers to the questionnaire.

Pilot questionnaires | The final questionnaire was filled by 10 respondents prior to distribution as to ensure the clarity and comprehension of all the questions and the questionnaires' structure; however, as Vulnerability (SCS dimension) was believed to be excessively self-critic, the order of the items was altered in the final questionnaire to diminish this feeling.

Data analysis

The first step of data analysis was the insertion and codification of the questionnaires' responses in Excel, as all questions had closed answers; additionally, some items in the measurement models of the TPB needed to be reversed, similarly to one of self-concept's subscale – Vulnerability.

The data was inserted and analyzed in SmartPLS 2.0 software for path modeling with latent variables – "explanatory variables presumed to reflect a continuum that is not directly observable" (Kline, 2011) – and on PASW Statistics 18 (former SPSS) for chi-square tests. A sample with all respondents was considered, *Sample T*, as well as 3 sub-samples based on each distribution channel: *Sample S* (supermarkets), *Sample P* (hairdressers) and *Sample F* [(para)pharmacies] with the objective of assessing differences between consumers. For each one, we ran two different models according to

the specific measuring of self-concept. The first followed the method suggested by the author: self-concept as a sum of subscale totals (option 1) having Power and Giftedness weighted by 1.2 and 0.857 respectively as they have 7 and 5 items (the other subscales have 6-items) (Stake, 1994). The other model consisted in second order measurement (option 2) as the self-concept score was computed based on the items of each subscale. For hypotheses testing we followed the one suggested by the literature (option 1), as it fits the validity of the sample. Besides these, another option (option 3) was tested: each dimension considered as a predictor variable of purchase intention to understand whether any dimension was relevant for the matter. The three modeling options of the structural model can be found in Appendix 3.

Reliability analysis of each scale was assessed by computing (1) Cronbach Alpha coefficients which are acceptable when above 0.7 but are also acceptable from 0.6 and above when considering exploratory analysis (Hair *et al*., 2006); (2) Average Variance Extracted (AVE) (acceptable for values above 0.5) and (3) Composite Reliability (CR) that should fall above 0.6 (Diamantopoulos & Siguaw, 2000).

Regarding the analysis of our model, through Smart PLS, and to reach the final measurement and structural models, some adjustments had to be made. The first decision after observing initial values of reliability (Appendix 4) was to exclude our scale of physical self-concept (self-image) due to very low reliability values on all samples – AVE of 0.31, 0.10, 0.40 and 0.11 for Sample T and Samples S, P and F, respectively – and CR values for Subsample S of 0.05 and of 0.09 for sample F. After this decision, we excluded all items with loadings <0.6 (Diamantopoulos & Siguaw, 2000). These were undertaken by excluding gradually the items with lower loadings until every item had acceptable loadings. Final reliability analysis values (Cronbach's

Alpha coefficient, AVE and CR) are reported in Appendix 4, and only two values are below acceptable (red values in Appendix 4); all other values satisfy the criteria meaning that the scales used are reliable (Cronbach's Alpha), that each latent variable is reliable (CR) and that the amount of variance captured by the construct in higher than the amount of variance due to measurement error (AVE).

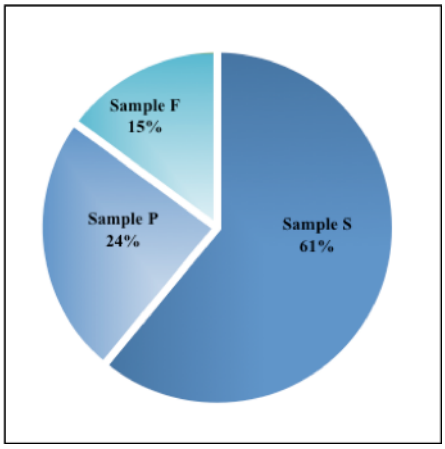
After reaching the final measurement models, the structural model was analyzed by evaluating whether its parameters are statistically different from 0, hence, having an associated t-value >1.96 (Diamantopoulos & Siguaw, 2000), followed by checking whether the sign of the parameter equals the expected sign of the hypothesis. Appendix 12 includes the summary table of the structural modeling results.

Lastly, due to the adopted methodology, the previously defined hypotheses were evaluated based on results from sample T; however, results for each subsample (S, P and F) will be shown as to observe potential differences in results between the subsamples.

RESULTS

Sample composition

Figure 2 | Percentage of Sample T



The sample was constituted by 282 men (Sample T = Total) where 172 men purchase shampoo in supermarkets (Sample S), 68 purchase professional shampoo in hairdressers (Sample P) and 42 who buy pharmaceutical shampoo in pharmacies (Sample F).

In terms of age, respondents were grouped

according to Marktest's age groups. The youngest sample (15-24 and 25-34 years is Sample S (22% and 26% respectively), followed by Sample P, in which 25% of its respondents belong to the 2nd age group, while Subsample F had only 17%. At the last age group (>55), which represents 15% of the total sample, Sample F holds the highest percentage in that range (29%). Concerning status, Sample F has the highest percentage of married respondents (67%) while Sample S has 47% of single men followed by Sample P that has 35%. Sample P has the highest percentage of divorced men (9% versus 5% of S and F). Lastly, concerning education, only 4% of respondents hold 9th grade or less. Percentages across Samples for other education levels are similar; bachelor/undergraduate has the highest representation being 50% of each Sample (Appendix 5). This over representation of more educated men was caused by our sample method which was based mostly on convenience methods, and therefore more focused on the researcher network which is biased toward more educated people.

Hypotheses testing

Hypothesis 1 | Regarding the first hypothesis (Appendix 6) which relates attitude towards behavior and purchase intention, it is only rejected by Sample S (t-value = 1.614 <1.96). Based on Sample T, P and F, we do not reject this hypothesis since all the parameters are statistically significant (t-values of 2.698, 2.275 and 4.771, respectively, all of them > 1.96) and positive (0.2, 0.162 and 0.291, respectively). Thus, attitude towards behavior does not have a significant impact on the purchase intention for those men who buy shampoo in the supermarket.

Hypothesis 2 | We do not rejected this hypothesis on any Sample meaning that subjective norm impacts positively on purchase intention in all men, independently of

the type of shampoo they buy (see Appendix 7 for parameters and t-values for each sample).

Hypothesis 3 | Similarly to hypothesis 2, hypothesis 3, which defends a positive impact of Perceived Behavior Control on purchase intention, is never rejected as the t-values are >1.96 and all parameters are positive (Appendix 8).

Hypothesis 4 | Regarding this hypothesis, we anticipated that past behavior would not impact the purchase intention, which would mean that our models considered all the variables that explained the behavior. However, this hypothesis is rejected by Sample T (0.164 with a t-value of 2.354), by Samples P and F (parameters of 0.221 and 0.164 and t-values of 3.246 and 2.927, respectively). This result indicates that this model is complete only in the situation of men that buy shampoo in supermarkets. Therefore more reasons for purchase had to be researched and analyzed to find more insights.

Hypothesis 5a and 5b | In this hypothesis, we had no previous expectation on its expected sign due to the lack of literature to sustain it. Our results indicate that for Samples T, S and P there is no significant impact of the self-concept on purchase intention (t-values of 0.141, 0.034 and 0.285, respectively). However, in the case of Sample F, there is a positive significant impact (t-value of 2.919 >1.96), but small (parameter's value = 0.176). As mentioned in the methodology, we used option 1 for self-concept modeling purposes but results were the same considering option 2. Appendix 10 presents the values for each sample according to option 1.

When considering self-concept in option 3 structural model, we obtained the following results: for Sample T and Sample S, none of the dimensions were proven to be statistically significant. However, for Subsample P the dimension "Likeability" was

significant (t-value=2.413>1.96) and its parameter value was 0.266, portraying a positive relationship between likeability and purchase intention. Moreover, for Sample F, Vulnerability is of relevance (t-value = 2.863 and parameter of 0.193); since vulnerability was reversed for modeling purposes, its parameter should have the opposite sign, -0.193: the lower the vulnerability, the higher the purchase intention, which is in line with former self-concept acceptance.

This option 3 for self-concept modeling requires caution in the interpretation of the results since, in Sample P, this modeling method led to the rejection of the significance of the hypothesis of an impact of the attitude towards behavior on purchase intention, contradicting what was formerly observed. However, when looking at all other samples, this was the only situation where the result was affected.

Reasons for purchase | As explained in Hypothesis 4, the results indicated that the model lacked other antecedents for the purchase intention in the case of Sample T, P and F. The analysis of the answers to the question "reasons for purchase" indicated some improvement areas to the model. 61 purchasers of professional shampoo and 39 of pharmaceutical answered this question[3]. As we can see in Table 1, the main reason for Sample P is being advised by a professional (38%), while for Sample F, there are two main reasons (30% each), hair problem and advice from a professional, though hair problem showed higher frequency as a first reason.

[3] Not all respondents answered the question appropriately (ranking). We averaged the reasons indicated by these respondents = 2 reasons; two top reasons in rank form answers were considered and frequencies of the two first reasons were added to achieve the two most important reasons for purchase.

Table 1 | Frequency data on reasons for purchase of shampoo

	Professional				Pharmaceutical			
	1st reason	2nd reason	Total	%	1st reason	2nd reason	Total	%
Promotion	0	4	4	4%	2	0	2	3%
Advised by relative/friend	4	5	9	8%	8	4	12	16%
Hair-related problem	19	4	23	22%	16	6	22	30%
Advised by a professional	24	16	40	38%	9	13	22	30%
Package	0	0	0	0%	0	0	0	0%
Product Quality	13	14	27	25%	4	12	16	22%
POP Advertising	1	2	3	3%	0	0	0	0%
TOTAL			106				74	

Note: Answers given by respondents who did not rank reasons were had an rank assigned randomly since the maximum number of reasons assigned by them was 2, avoiding excluding equally important reasons for those respondents.

Other results | Variables' independence was checked with chi-square tests (with a 5% level of significance)[4]. We performed these tests to understand the association between the demographics (age and education) or the type of shampoo buyer (supermarket, professional or pharmaceutical), with the other variables such as product usage. Regarding Sample T, it was found that independence between education and shampoo category is rejected (χ^2=15.557, *df*=8) with a p-value of 0.049: all pharmaceutical respondents belong to top 3 education levels, while higher percentage of professional shampoo purchasers are among the bottom two levels (100% of the respondents that have pre-school education or no education and 67% of those who have until 9th grade) use professional shampoo as presented in Appendix 11 (Table 1).

Hypothesis of independence between education and usage of hair gel/wax was rejected in Sample T (χ^2=12.456, *df*=4) with a p-value of 0.014 and in Sample P (χ^2=14.904, *df*=4). Independence was also rejected between age and, again, usage of hair gel/wax in the same samples (T and P) as χ^2(T)=22.458 (*df*=4) and χ^2(P)=10.589 (*df*=4). As presented in Appendix 11 we can observe that for Sample T, the higher the education levels, the smaller the number of respondents that uses one of these products (gel or wax). Furthermore, when we look at the second relationship in samples T and P, we

[4] When there were more than 20% of cells with an expected count <5, due to small sample size, we considered the Likelihood ratio.

observe that gel and wax are mostly used by men who fall in the 25-34 and 34-44 age groups; however, percentages are higher for 35-44 years old in both samples.

When relating to shampoo category with usage of hair conditioner/mask and usage of hair gel/wax independence hypotheses is rejected, since χ^2=10.153 (*df*=2) and χ^2= 24.446 (*df*=2), respectively. The percentage of respondents that use these products is higher in professional shampoo purchasers (31% use hair conditioner/mask and 55% use hair gel/wax). Independence between shampoo category and the other two possible product options (aftershave and facial moisturizer/exfoliant) is not rejected, meaning that their usage does not depend on the type of shampoo the respondent buys. Independence of shampoo category and number of products marked/used by the respondent is rejected though: χ^2= 23.101 (*df*=8) and a p-value of 0.003, meaning that there is a relationship between the two. Table 9 in Appendix 11 demonstrates that 42% of normal shampoo purchasers use two or more products, while the percentage for pharmaceutical shampoo is 55% and 69% for professional. 100% of professional shampoo purchasers use at least one of the products, while supermarket and pharmaceutical shampoo purchasers 17% of each sample does not use any of them.

CONCLUSIONS

Discussion | This research intended to provide insights on the reasons that impact men when they purchase shampoo, being at the supermarket, hairdresser (or specialized store) or at the (para)pharmacy; the entire sample was divided accordingly to assess the differences among the three channels.

Firstly, looking at Sample S's results (supermarket shampoo purchasers), opposing to what was expected, attitude towards behavior was not relevant regarding these respondents. This may be supported by the fact that those who purchase shampoo at the

supermarket have not developed any specific kind of interest for it. It does not mean that they have negative attitudes and reserves towards it; it rather seems that there is no positive attitude towards purchasing shampoo. This could be translated into lower involvement with the product in this category when compared to the other ones and may represent a business opportunity for further consideration. Regarding the other two antecedents, PBC and subjective norm, these were indeed relevant and having similar impacts on purchase intention. Nevertheless PBC is more important: subjective norm, in this case, may simply result from the fact that people are expected to purchase shampoo, as it is part of an everyday routine of personal care, hence, the perception that one is able to successfully afford it becomes more relevant. It is then important that consumers perceive that they are indeed capable of pursuing the behavior: as mentioned before, potential variables that may diminish such control may be price, availability of the product or even being the one responsible for the purchase in the household (often it is not the case since there is still a large percentage of men whose wife is the responsible for this purchase). Furthermore, self-concept is not significant to supermarket shampoo purchasers: the fact that this is a mass market approach and, given the variety of people, self-concept patterns are difficult to find or do not even make sense.

Sample P and Sample F show some similarities between the two: positive attitudes towards the behavior are relevant, having a higher importance for Subsample F than for P ($\beta_F = 0.291 > \beta_P = 0.162$). Thus, in these two shampoo categories, companies need to convey the importance of shampoo for the consumer and allow men to develop such attitudes; market leaders, which have the means to strongly impact the market and attitudes, such as L'Oréal, should communicate the relevance of hair care for men, increasing willingness to pay a premium for the product given their higher quality.

These communication efforts may also result later on in a higher involvement with the product, allowing for a different type of business to consumer communication as, for example, a more personalized strategy that makes consumers relate to each brand, achieving higher customer retention rates.

In sample P self-concept was not relevant when modeled according to literature (option 1); however, when considering self-concept dimensions as direct predictors of purchase intention, "likeability" showed relevance. It can be said, with some uncertainty though, that professional shampoo distributors should target men who perceive themselves as being friendlier, more sociable and fun to be with, hence, more extrovert. On the other hand, self-concept was relevant for Sample F with both modeling options: men with a higher self-concept have higher purchase intention of pharmaceutical shampoo. In this case, a higher self-concept means a person that perceives herself as being more likeable, moral, task accomplisher, gifted, powerful and less vulnerable (Appendix 2). According to modeling option 3, vulnerability was the only relevant dimension for pharmaceutical shampoo purchasers: a man that is not easily embarrassed, does not lack confidence, does not get easily rattled when others are watching, and is not self-conscious, has higher intention to purchase pharmaceutical shampoo.

When analyzing the main reason for purchase of pharmaceutical shampoo, which is having a hair problem, there might be a relationship between this fact and one's perception of vulnerability. Having physical issues can affect (diminish) our self-concept, since an individual can feel self-conscious about the problem, increasing perceived vulnerability. The logic behind such result might be that people who feel vulnerable might have a harder time admitting they have a problem and thus doing something to solve it is somewhat admitting it (by solving it can be understood by

recurring to pharmaceutical shampoo as it is a product that is health oriented, highly focused on problem solving and efficient for the purpose). Concluding, those who do not let a hair problem affect their self-esteem opt for pharmaceutical shampoo; those who do, might take a different route: they do not admit they do have a problem and so they opt for a different shampoo category since pharmaceutical is usually intended to solve a specific problem.

Being advised by a professional is the primary reason for purchase of professional shampoo, proving prescribers dominate this category. Hence, being hairdressers the key influencers in men's decision process, companies must develop marketing strategies that take this into consideration and implement effective incentive measures to ensure their advice. Hairdressers must understand their benefits in achieving high sales volumes, thus incentives must impact them directly, namely commissions, prizes for achieving predetermined sales objectives or personalized benefits from their distributor. Moreover, companies should understand what triggers hairdressers' willingness to prescribe products to solidify these strategies; this is crucial for the effectiveness of the defined strategies and incentives to increase sales revenues.

Another conclusion of this research derives from the inclusion of past behavior in this model; it has proven that the model has limitations to understand the behavior in Samples P and F, as past behavior was proven relevant for both these samples, contradicting the sufficiency assumption. The previously mentioned reasons for purchase may then help fill this gap in further research work. On the other hand, as past behavior was proven irrelevant for supermarket shampoo purchasers, the model can be assumed as sufficient to understand behavior. What is surprising about this fact is that the hypotheses relating attitude towards behavior and self-concept with purchase

intention were rejected and the model is still sufficient; for supermarket shampoo, only subjective norms and PBC are important for these consumers meaning that both these two variables should be controlled by companies as to incentive purchase.

Concerning product usage, age and education are two demographic variables that impact product usage in Sample P: hair gel and wax usage decreases with education and have a larger audience among the 25-34 and 35-44 age groups; hair conditioner and mask's audience is among the last two age groups, 45-54 and >55. The research and analysis showed that, in Sample P, men who purchase professional shampoo use a greater number of products when compared to supermarket and pharmaceutical shampoo users. This may show a higher concern for their appearance, which then combined with the conclusion that they also perceive themselves as more "likeable", leads us to think that there might be an interaction between these two facts as more sociable may mean higher interaction with people and a greater concern for looking good.

Limitations | Our scales were retrieved directly from the literature to benefit from the reliability of the results. Therefore, they were not built to achieve full appropriation to the considered behavior, but with our time frame (one semester) it was not possible to build all the scales and guarantee minimum reliability standards. There is a trade-off when choosing one of the two approaches, but since we were going to use SEM models, validity concerns arose. Our essay to develop a physical self-concept scale is an example of the reliability issues that may arise, having led to its withdrawal from the model. This created a gap in the self-concept analysis since physical self-concept was indeed an important dimension for this study as shampoo alters body image and odor (cosmetic product).

Another limitation of this research is the sample size. Even though the whole sample, Sample T, had 282 respondents, the subsamples had a smaller number that might have restricted the validity of some results for each category. Lastly, according to Ajzen & Fishbein (2010), the model used for the purchase intention of shampoo must be considered for specific behaviors; hence, model results are not applicable to other hair care products, for example, being one of the reasons why shampoo was chosen as to portray the basics of hair care.

Further Research | Based on the findings, we concluded that there is room left for improvement in prediction models for Samples P and F. Further research should look for different variables to be considered as antecedents of this model. The analysis of the reasons for purchase may shed some light on possibilities for these variables. Considering the main reasons found for the behavior – advise by a professional, hair problem and product quality – they may be reflected by the susceptibility of influence by experts, hair self-concept or health concerns and product quality itself. Even though the prior analysis may be helpful, true exploratory research should be done to find other reasons that were not portrayed in this research.

Furthermore, the lack of relevance of self-concept for the matter may have been a result from direct usage from literature. Thus, a self-concept scale with relevant dimensions found in an exploratory research could be done to confirm or reject its lack of relevance.

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Booklet 2 of 2

A Work Project, presented as part of the requirements for the Award of a Masters Degree in Management from the Nova School of Business & Economics.

Men's purchase intention of shampoo: a model based on the Theory of Planned Behavior and Self-concept.

MARGARET KELLY GRADE IVENS PITTA FERRAZ
Student number 586

June 2011

A project carried out on the Management course, under the supervision of:
Professor Luísa Agante

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APPENDICES

Appendix 1 – Self- administered questionnaire

QUESTIONÁRIO

Bom dia/Boa tarde,

Como parte integrante do meu mestrado em Marketing na NOVA School of Business & Economics em Lisboa, estou a fazer uma investigação para a minha tese no âmbito do comportamento de compra dos homens portugueses de champô profissional. Informo que toda a informação deste questionário será tratada como **confidencial**. O preenchimento do mesmo deverá demorar entre **10 a 15 minutos**.
Gostaria de agradecer desde já a sua colaboração neste questionário.

Responda a este questionário apenas se é do sexo **masculino** e **responsável** pela compra do champô que usa.

Por favor, coloque um "X" no espaço para a sua resposta.

PARTE I

1. Que tipo de champô é que compra mais frequentemente? Seleccione **apenas uma opção**.

Champô normal: champô comprado no supermercado.
Champô profissional: champô comprado ou no cabeleireiro ou em lojas especializadas em produtos capilares.
Champô farmacêutico: champô comprado em farmácias ou parafarmácias.

Normal	Profissional	Farmacêutico	Outros

Se respondeu "**Outros**", muito obrigada pela sua participação. O seu questionário termina aqui.

2. Se assinalou "**Profissional**" na pergunta anterior, assinale onde o costuma comprar.

Cabeleireiro	Barbeiro	Loja Especializada

3. No último ano, quantas vezes comprou champô do tipo que seleccionou?

1 vez	2 vezes	3 vezes	Mais de 3 vezes

4. Idade:_____

5. Estado Civil:

Solteiro	Casado/ União de Facto	Divorciado / Separado	Viúvo

6. Nível de escolaridade:

Ensino pré-escolar/Sem grau de ensino	
Ensino Básico (até ao 9º ano)	
Ensino Secundário (até ao 12º)	
Licenciatura/Bacharelato	
Mestrado/Doutoramento	

7. Assinale quais destes produtos utiliza: (pode seleccionar mais do que um)

Amaciador/máscara para o cabelo	
Gel/cera para o cabelo	
Aftershave	
Creme hidratante/esfoliante para a cara	

PARTE II

Responda ao resto do questionário considerando o **tipo de champô que assinalou** anteriormente.
Algumas das questões poderão parecer semelhantes mas têm o objectivo de medir diferentes aspectos. Por favor leia cada questão cuidadosamente.

8. Comparado com outros produtos, champô (normal/profissional/farmacêutico) é importante para mim.

Discordo totalmente	1	2	3	4	5	6	7	Concordo totalmente

9. Eu não estou interessado em champô (normal/profissional/farmacêutico).

Discordo totalmente	1	2	3	4	5	6	7	Concordo totalmente

10. Quando eu compro uma marca de champô (normal/profissional/farmacêutico) eu escolho com muito cuidado.

Discordo totalmente	1	2	3	4	5	6	7	Concordo totalmente

11. Para mim, comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses é:

Extremamente fácil	1	2	3	4	5	6	7	Extremamente difícil

12 . A maioria das pessoas que são importantes para mim pensam:

Que eu devia	1	2	3	4	5	6	7	Que eu não devia

Comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses

13. Para mim, comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses é:

Extremamente bom	1	2	3	4	5	6	7	Extremamente mau

14. Eu planeio comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses:

Extremamente provável	1	2	3	4	5	6	7	Extremamente improvável

15. A decisão de comprar ou não champô (normal/profissional/farmacêutico) nos próximos 6 meses é totalmente dependente de mim:

Discordo totalmente	1	2	3	4	5	6	7	Concordo totalmente

16. A maioria das pessoas como eu vão comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses:

Extremamente provável	1	2	3	4	5	6	7	Extremamente improvável

17. Para mim, comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses é:

Algo a que dou valor	1	2	3	4	5	6	7	Algo que considero inútil

18. Eu estou confiante de que, se eu quisesse, podia comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses:

Completamente verdadeiro	1	2	3	4	5	6	7	Completamente falso

19. É esperado de mim que eu compre champô (normal/profissional/farmacêutico) nos próximos 6 meses:

Completamente verdadeiro	1	2	3	4	5	6	7	Completamente falso

20. Para mim, comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses é:

Extremamente agradável	1	2	3	4	5	6	7	Extremamente desagradável

21. Eu vou fazer um esforço para comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses:

Definitivamente vou	1	2	3	4	5	6	7	Definitivamente não vou

22. Para mim, comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses é:

Impossível	1	2	3	4	5	6	7	Possível

23. As pessoas cujas opiniões mais valorizo aprovariam a minha compra de champô (normal/profissional/farmacêutico) nos próximos 6 meses:

Discordo totalmente	1	2	3	4	5	6	7	Concordo totalmente

24. Para mim, comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses é:

Interessante	1	2	3	4	5	6	7	Aborrecido

25. Eu tenciono comprar champô (normal/profissional/farmacêutico) nos próximos 6 meses:

Concordo totalmente	1	2	3	4	5	6	7	Discordo totalmente

26. Por favor, circule o número respectivo à sua resposta

	Nunca ou quase nunca verdade acerca de mim	Normalmente não verdadeiro acerca de mim	Ocasionalmente mas raramente verdadeiro acerca de mim	Ocasionalmente verdadeiro acerca de mim	Frequentemente verdadeiro acerca de mim	Normalmente verdadeiro acerca de mim	Sempre ou quase sempre verdadeiro acerca de mim
Trabalha eficientemente	1	2	3	4	5	6	7
Amigável	1	2	3	4	5	6	7
Facilmente envergonhado	1	2	3	4	5	6	7
Forte	1	2	3	4	5	6	7
Produtivo	1	2	3	4	5	6	7
Cumpridor	1	2	3	4	5	6	7
Comete erros quando está agitado	1	2	3	4	5	6	7
É bom a cumprir prazos	1	2	3	4	5	6	7
Facilmente ferido	1	2	3	4	5	6	7
Leal	1	2	3	4	5	6	7
Tem habilidade inata	1	2	3	4	5	6	7
Um talento natural	1	2	3	4	5	6	7
Tenho falta de confiança	1	2	3	4	5	6	7
Inteligente e engenhoso	1	2	3	4	5	6	7
Agradável	1	2	3	4	5	6	7
Poderoso	1	2	3	4	5	6	7
Consegue concentrar-se bem numa tarefa	1	2	3	4	5	6	7
Caloroso	1	2	3	4	5	6	7

	Nunca ou quase nunca verdade acerca de mim	Normalmente não verdadeiro acerca de mim	Ocasionalmente mas raramente verdadeiro acerca de mim	Ocasionalmente verdadeiro acerca de mim	Frequentemente verdadeiro acerca de mim	Normalmente verdadeiro acerca de mim	Sempre ou quase sempre verdadeiro acerca de mim
Trabalhador	1	2	3	4	5	6	7
Criativo	1	2	3	4	5	6	7
Actua como um líder	1	2	3	4	5	6	7
Confiável	1	2	3	4	5	6	7
Verdadeiro	1	2	3	4	5	6	7
Tenho talentos especiais	1	2	3	4	5	6	7
Dominante	1	2	3	4	5	6	7
Auto-consicente e crítico	1	2	3	4	5	6	7
Sociável	1	2	3	4	5	6	7
Resistente							
Facilmente incomodado quando pessoas estão a olhar	1	2	3	4	5	6	7
Enérgico	1	2	3	4	5	6	7
Honesto	1	2	3	4	5	6	7
Divertido de estar com	1	2	3	4	5	6	7
Agressivo	1	2	3	4	5	6	7
Fácil de falar com	1	2	3	4	5	6	7
Crente	1	2	3	4	5	6	7
Planeia com antecedência	1	2	3	4	5	6	7

	Não se aplica nada a mim				Aplica-se muito a mim
Quanto à minha imagem pessoa, sinto-me inovador	1	2	3	4	5
Cuidar de mim ajuda-me a sentir bem no meu meio social	1	2	3	4	5
É importante para mim manter uma imagem perante o meu meio social	1	2	3	4	5
Quanto à minha imagem pessoa, sinto-me conservador	1	2	3	4	5
Sou uma pessoa que gosta de ser notada	1	2	3	4	5
Cuidar de mim ajuda-me a sentir bem comigo próprio	1	2	3	4	5
Sou uma pessoa que gosta de passar despercebida	1	2	3	4	5
Cuido muito da minha imagem	1	2	3	4	5
Tenho muita confiança em mim próprio	1	2	3	4	5

27. Se assinalou "**Profissional**" ou "**Farmacêutico**" na primeira pergunta, porque é que comprou o produto pela primeira vez? Por favor ordene de 1 (razão **mais** importante) a 7 (razão **menos** importante) de acordo com a importância que atribui a cada opção.

Problema capilar	
Qualidade do produto	
Promoção	
Embalagem	
Aconselhamento do profissional	
Aconselhamento do familiar/amigo	
Publicidade no local de compra	
Outro? Qual _____	

Muito obrigada pela sua disponibilidade e colaboração!

Appendix 2 – Measurement Scales for Latent Variables + Codification

Attitude Towards Behavior (Semantic differential)

For me to purchase (normal/professional/pharmaceutical) shampoo in the next 6 months is:

ATT_1 | Extremely bad – Extremely good

ATT_2 | Something I consider worthless – Something I value

ATT_3 | Extremely unpleasant – Extremely pleasant

ATT_4 | Boring - Interesting

Subjective Norm (Semantic differential)

SN_1 | Most people who are important to me think that:
I should not – I should (purchase (normal/professional/pharmaceutical) shampoo in the next 6 months

SN_2 | Most people like me purchase (normal/professional/pharmaceutical) shampoo in the next 6 months:
Extremely unlikely – Extremely likely

SN_3 | It is expected of me that I purchase (normal/professional/pharmaceutical) shampoo in the next 6 months:
Definitely false – Definitely true

SN_4 | Most people whose opinions I value would approve of my purchase of (normal/professional/pharmaceutical) shampoo in the next 6 months:
Strongly disagree – Strongly agree

Perceived Behavioral Control (Semantic differential)

PBC_1 | For me to purchase (normal/professional/pharmaceutical) shampoo in the next 6 months is:
Extremely difficult – Extremely easy

PBC_2 | Whether or not I purchase (normal/professional/pharmaceutical) shampoo in the next 6 months is completely up to me:
Strongly disagree – Strongly agree

PBC_3 | I am confident that if I wanted to I could purchase (normal/professional/pharmaceutical) shampoo in the next 6 months:
Definitely false – Definitely true

PBC_4 | For me to purchase (normal/professional/pharmaceutical) shampoo in the next 6 months is:
Impossible - Possible

Past Behavior (Close answer)

PB | How many times have you purchased (normal/professional/pharmaceutical) shampoo in the last year? 1 time, 2 times, 3 times, >3 times.

Purchase Intention (Semantic differential)

PINT_1 | I plan to purchase (normal/professional/pharmaceutical) shampoo in the next 6 months:
Extremely unlikely – Extremely likely

PINT_2 | I will make an effort to purchase (normal/professional/pharmaceutical) shampoo in the next 6 months:
I definitely will not – I definitely will

PINT_3 | I intend to purchase (normal/professional/pharmaceutical) shampoo in the next 6 months:
Strongly disagree – Strongly agree

Self-concept (Likert scale)

LKB | Likeability (6 items)
Fun to be with
Friendly
Sociable
Pleasant
Warm
Easy to talk to

TSK_ACC | Task Accomplishment (6 items)
Hard worker
Productive
Plans ahead
Can concentrate well on a task
Works efficiently
Good at meeting deadlines

MOR | Morality (6 items)
Loyal
Truthful
Law-abiding
Faithful
Trustworthy
Honest

PWR | Giftedness (7 items)
Dominant
Strong
Acts as a leader
Powerful
Aggressive
Forceful
Tough

GFT | Giftedness (6 items)
A natural talent
Creative
Has special talents
Bright and ingenious
Has innate ability

VLNB | Vulnerability (6 items)
Easily embarrassed
Lacks confidence
Self-conscious
Easily rattled when people are watching
Makes mistakes when flustered
Easily hurt

Appendix 3 – Modeling options of the structural model

Figure 1 | Option 1 of structural model measurement

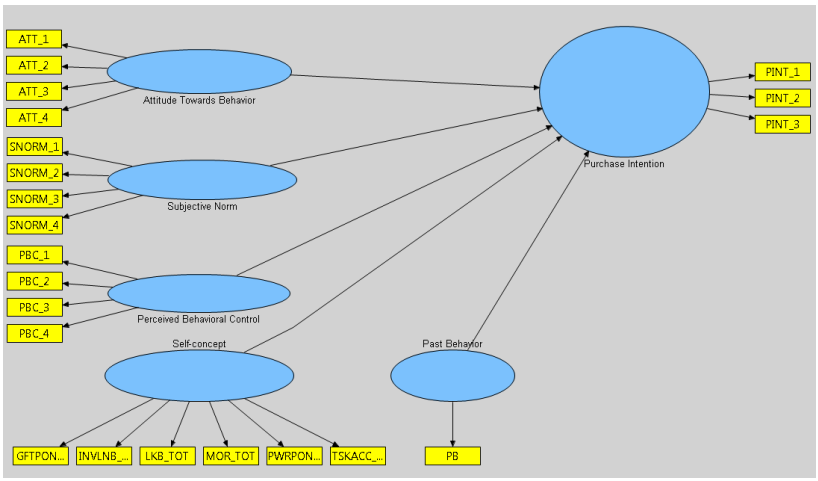


Figure 2 | Option 2 for structural model measurement

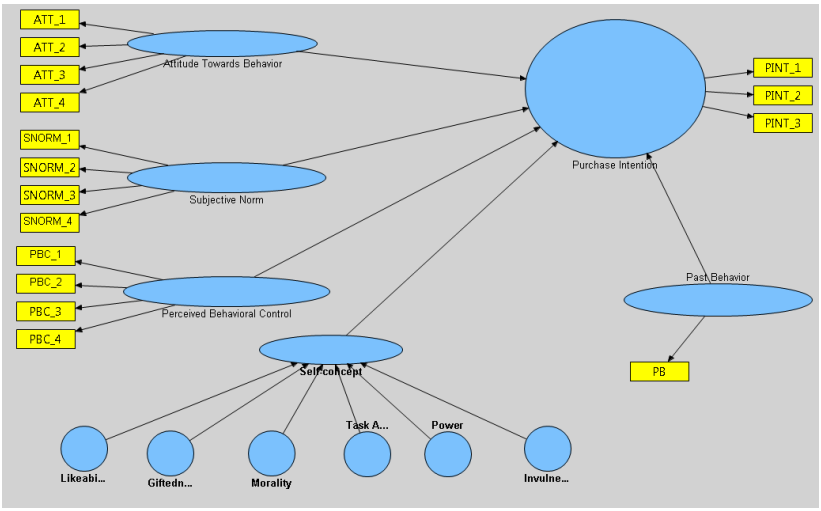
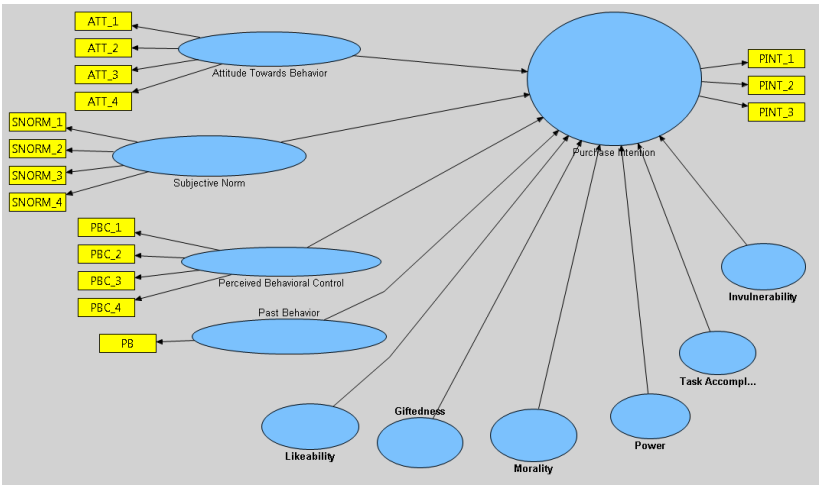


Figure 3 | Option 3 for structural model measurement



Appendix 4 – Reliability Analysis

Table 1 | Reliability Analysis for Latent Variables before definition of final measures

		Purchase Intention	Att. Tow. Behavior	Subjective Norm	PBC	Past Behavior	Self-concept	Physical Self-concept
Cronbach Alpha (>0.6)	Sample T	0.64	0.82	0.59	0.59	1.00	0.78	0.76
	Subsample S (Supermarkets)	0.67	0.77	0.54	0.51	1.00	0.80	0.69
	Subsample P (Hairdressers)	0.63	0.86	0.64	0.78	1.00	0.77	0.80
	Subsample F (Pharmacies)	0.71	0.87	0.69	0.40	1.00	0.69	0.86
AVE (>0.5)	Sample T	0.61	0.65	0.45	0.45	1.00	0.48	0.31
	Subsample S (Supermarkets)	0.61	0.59	0.43	0.42	1.00	0.15	0.10
	Subsample P (Hairdressers)	0.61	0.70	0.48	0.60	1.00	0.52	0.40
	Subsample F (Pharmacies)	0.65	0.72	0.52	0.41	1.00	0.40	0.11
Composite Reliability (>0.6)	Sample T	0.82	0.88	0.76	0.76	1.00	0.84	0.74
	Subsample S (Supermarkets)	0.82	0.85	0.73	0.72	1.00	0.31	0.05
	Subsample P (Hairdressers)	0.81	0.90	0.78	0.85	1.00	0.78	0.83
	Subsample F (Pharmacies)	0.84	0.91	0.81	0.67	1.00	0.80	0.09

Table 2 | Reliability Analysis for Latent Variables after definition of final measures

		Purchase Intention	Att. Tow. Behavior	Subjective Norm	PBC	Past Behavior	Self-concept
Cronbach Alpha (>0.6)	Sample T	0.79	0.82	0.64	0.59	1.00	0.84
	Subsample S (Supermarkets)	0.74	0.77	0.65	0.60	1.00	0.74
	Subsample P (Hairdressers)	0.85	0.86	0.64	0.78	1.00	0.86
	Subsample F (Pharmacies)	0.71	0.87	0.71	0.74	1.00	0.69
AVE (>0.5)	Sample T	0.83	0.65	0.73	0.55	1.00	0.57
	Subsample S (Supermarkets)	0.79	0.59	0.74	0.71	1.00	0.79
	Subsample P (Hairdressers)	0.87	0.70	0.48	0.60	1.00	0.63
	Subsample F (Pharmacies)	0.65	0.72	0.63	0.79	1.00	0.45
Composite Reliability (>0.6)	Sample T	0.91	0.88	0.85	0.78	1.00	0.87
	Subsample S (Supermarkets)	0.89	0.85	0.85	0.83	1.00	0.88
	Subsample P (Hairdressers)	0.93	0.90	0.78	0.85	1.00	0.89
	Subsample F (Pharmacies)	0.84	0.91	0.84	0.89	1.00	0.80

Appendix 5 – Sample composition

Sample T		
Age	Frequency	% of Total
No age	3	1%
15-24	49	17%
25-34	68	24%
35-44	60	21%
45-54	61	22%
>55	41	15%
Status		
Single	116	41%
Married	144	51%
Divorced	18	6%
Widow	4	1%
Education		
Pre-school/without education	2	1%
Basic Education	9	3%
Secondary Education	58	21%
Graduate	142	50%
Master/Doctorate	71	25%
TOTAL	282	

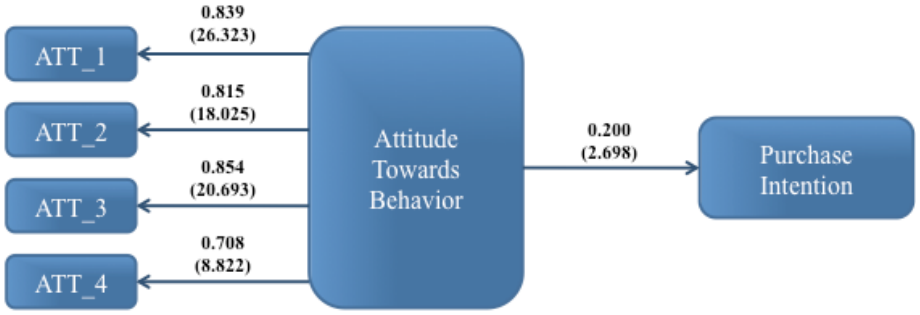
Sample S		
Age	Frequency	% of Total
No age	-	-
15-24	37	22%
25-34	44	26%
35-44	32	19%
45-54	40	23%
>55	19	11%
Status		
Single	81	47%
Married	79	46%
Divorced	10	6%
Widow	2	1%
Education		
Pre-school/without education	-	-
Basic Education	3	2%
Secondary Education	38	22%
Graduate	86	50%
Master/Doctorate	45	26%
TOTAL	172	

Sample P		
Age	Frequency	% of Total
No age	2	3%
15-24	8	12%
25-34	17	25%
35-44	18	26%
45-54	13	19%
>55	10	15%
Status		
Single	24	35%
Married	37	54%
Divorced	6	9%
Widow	1	1%
Education		
Pre-school/without education	2	3%
Basic Education	6	9%
Secondary Education	11	16%
Graduate	34	50%
Master/Doctorate	15	22%
TOTAL	68	

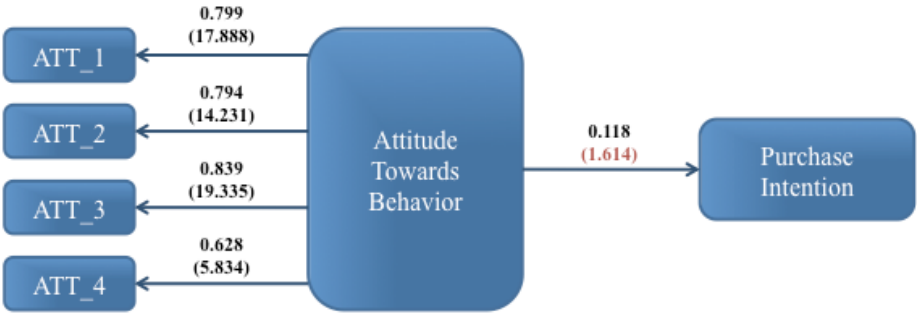
Sample F		
Age	Frequency	% of Total
No age	1	2%
15-24	4	10%
25-34	7	17%
35-44	10	24%
45-54	8	19%
>55	12	29%
Status		
Single	11	26%
Married	28	67%
Divorced	2	5%
Widow	1	2%
Education		
Pre-school/without education	-	-
Basic Education	-	-
Secondary Education	9	21%
Graduate	22	52%
Master/Doctorate	11	26%
TOTAL	42	

Appendix 6 – Hypothesis 1 (Attitude Towards Behavior)

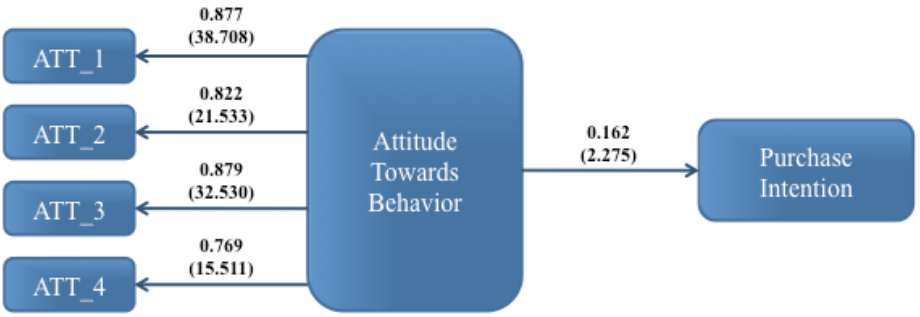
Sample T - Parameters and (t-values) for measurement model and structural model



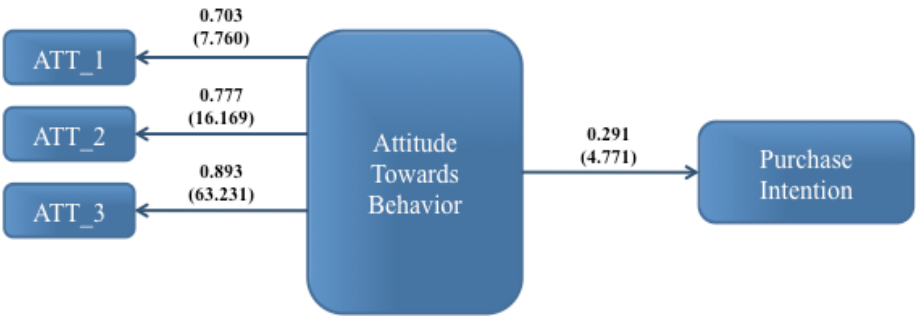
Subsample S - Parameters and (t-values) for measurement model and structural model



Subsample P - Parameters and (t-values) for measurement model and structural model

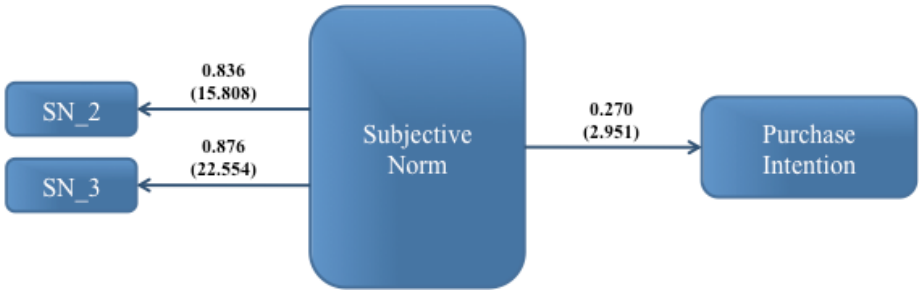


Subsample F - Parameters and (t-values) for measurement model and structural model

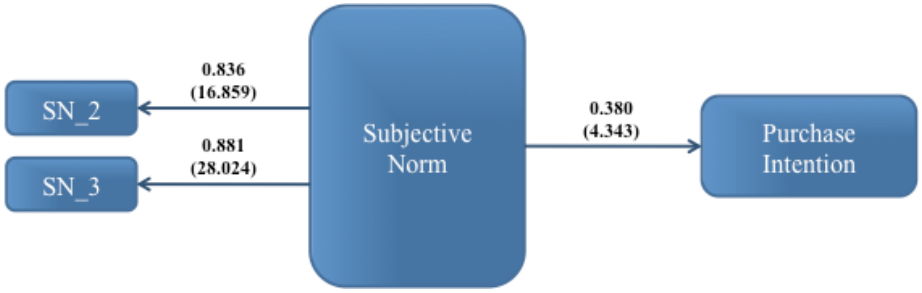


Appendix 7 – Hypothesis 2 (Subjective Norm)

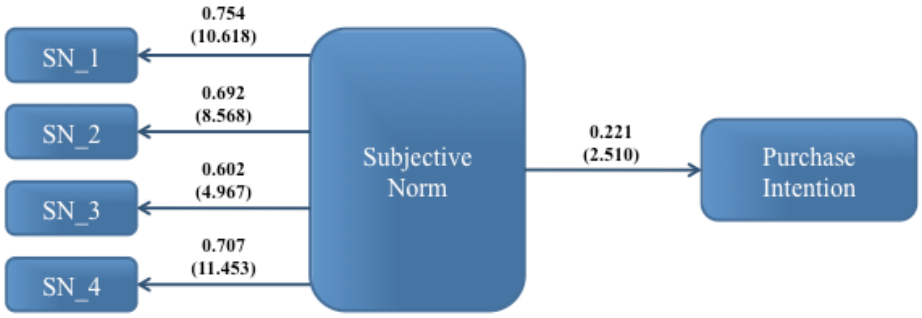
Sample T - Parameters and (t-values) for measurement model and structural model



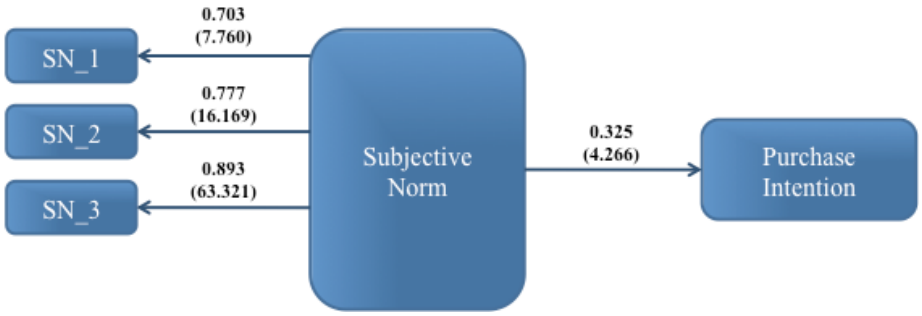
Subsample S - Parameters and (t-values) for measurement model and structural model



Subsample P - Parameters and (t-values) for measurement model and structural model

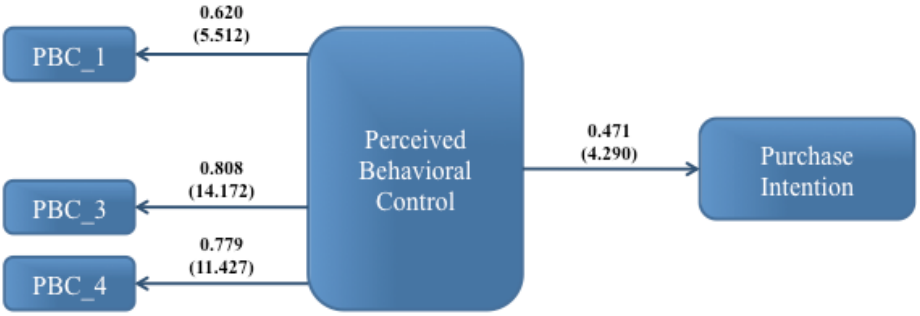


Subsample F - Parameters and (t-values) for measurement model and structural model

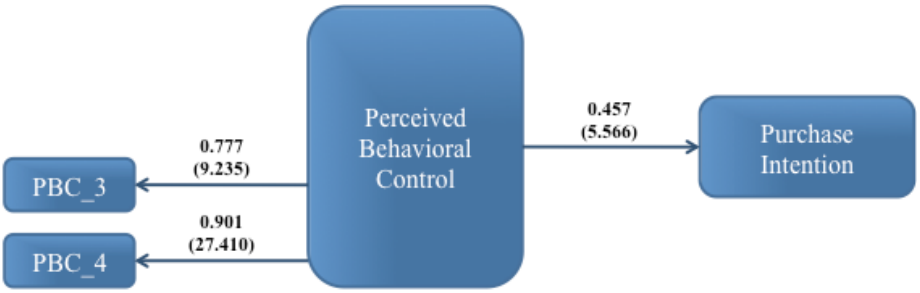


Appendix 8 – Hypothesis 3 (Perceived Behavioral Control)

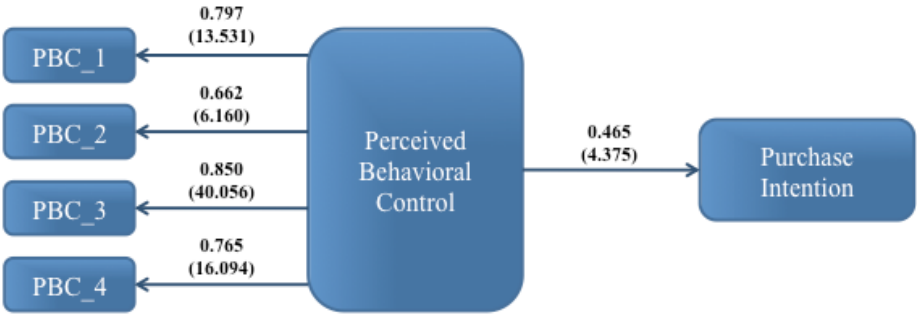
Sample T - Parameters and (t-values) for measurement model and structural model



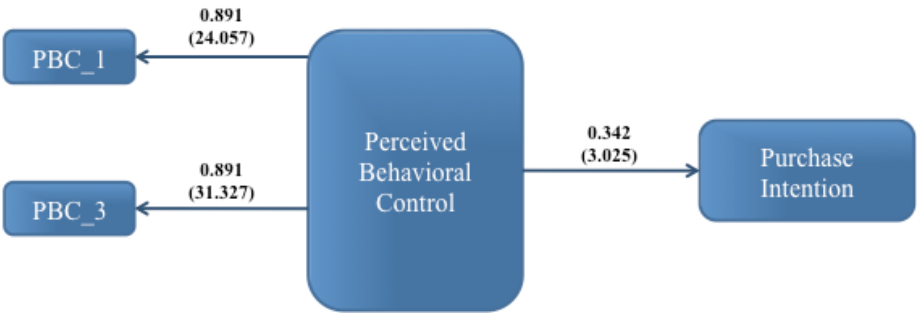
Subsample S - Parameters and (t-values) for measurement model and structural model



Subsample P - Parameters and (t-values) for measurement model and structural model



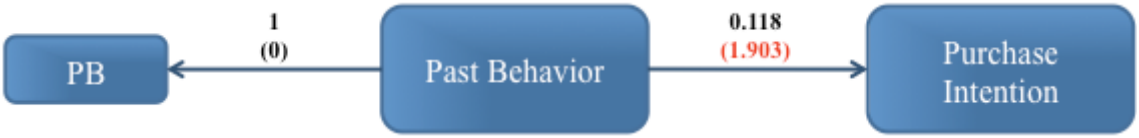
Subsample F - Parameters and (t-values) for measurement model and structural model



Appendix 9 – Hypothesis 4 (Past Behavior)

Sample T - Parameters and (t-values) for measurement model and structural model

Subsample S - Parameters and (t-values) for measurement model and structural model

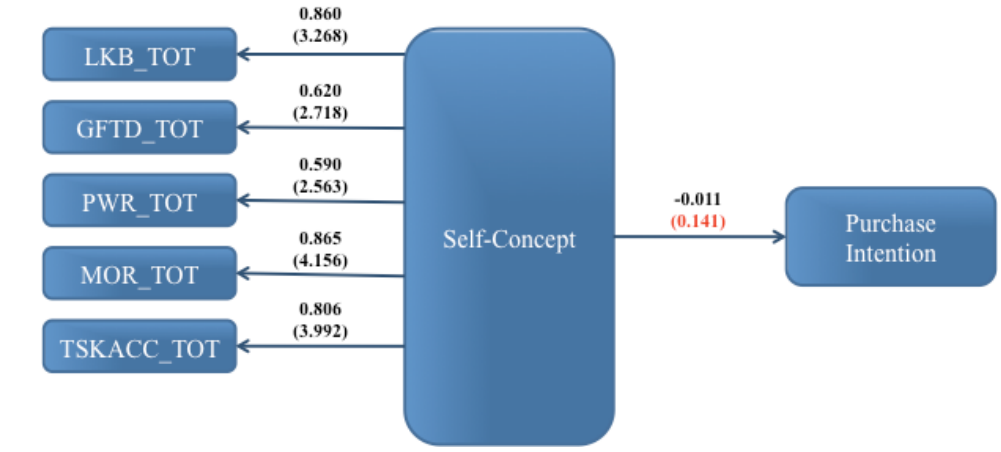


Subsample P - Parameters and (t-values) for measurement model and structural model

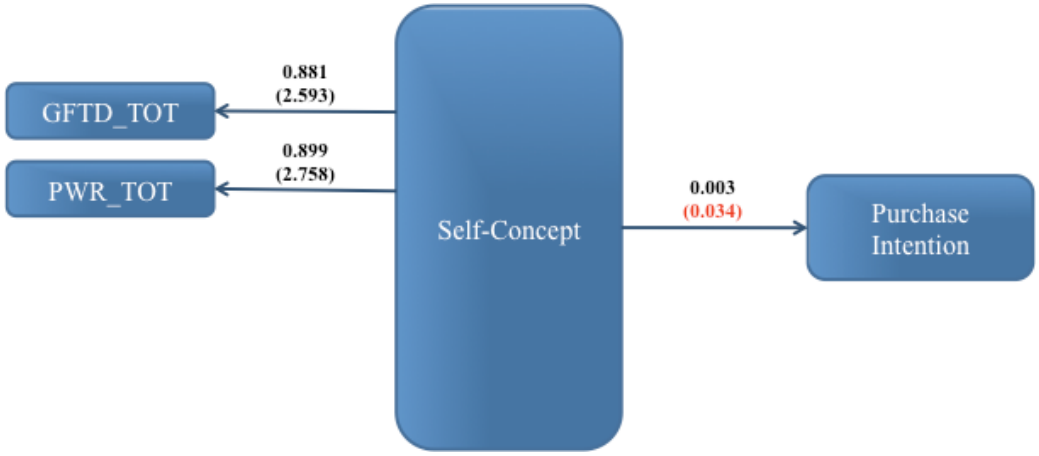
Subsample F - Parameters and (t-values) for measurement model and structural model

Appendix 10 – Hypothesis 5 (Self-Concept)

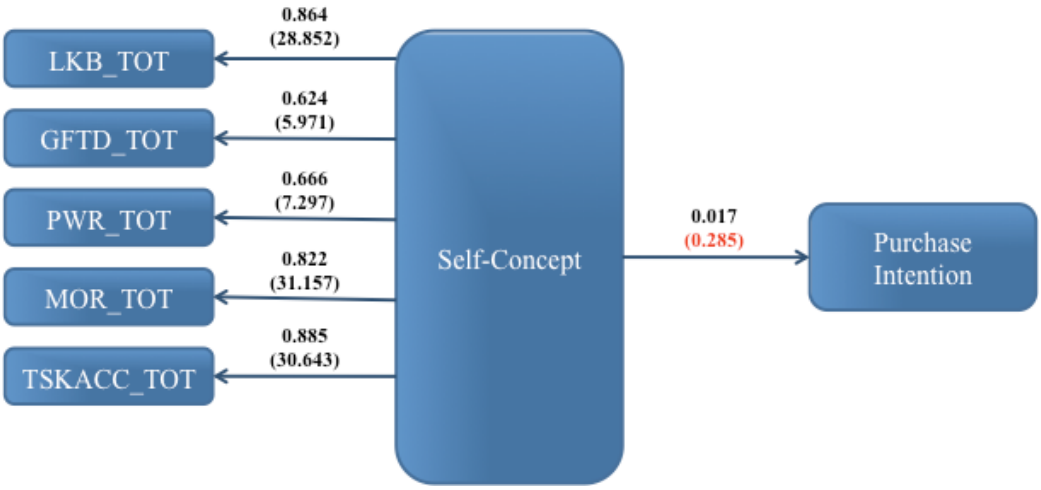
Sample T - Parameters and (t-values) for measurement model and structural model



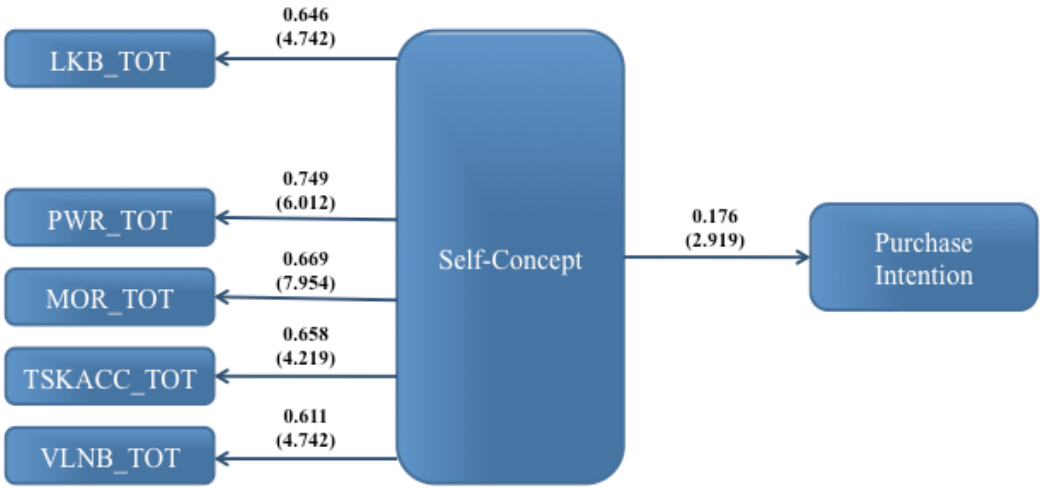
Subsample S - Parameters and (t-values) for measurement model and structural model



Subsample P - Parameters and (t-values) for measurement model and structural model



Subsample F - Parameters and (t-values) for measurement model and structural model



Appendix 11 – Chi-square tests for independence

Table 1 | Sample T: Chi-square tests for independence of education and shampoo category

Shampoo Category * Education

Crosstab

			Education					
			Pre-school education/no education	Until 9th grade	Until 12th grade	Bachelor/Undergraduate	Master/Doctorate	Total
Shampoo Category	Normal	Count	0	3	38	86	45	172
		% within Education	.0%	33.3%	65.5%	60.6%	63.4%	61.0%
	Professional	Count	2	6	11	34	15	68
		% within Education	100.0%	66.7%	19.0%	23.9%	21.1%	24.1%
	Pharmaceutical	Count	0	0	9	22	11	42
		% within Education	.0%	.0%	15.5%	15.5%	15.5%	14.9%
Total		Count	2	9	58	142	71	282
		% within Education	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.755[a]	8	.033
Likelihood Ratio	15.557	8	.049
Linear-by-Linear Association	.166	1	.684
N of Valid Cases	282		

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .30.

Table 2 | Sample T: Chi-square tests for independence of education and usage of hair gel and/or wax

Hair gel/wax * Education

Crosstab

			Education					
			Pre-school education/no education	Until 9th grade	Until 12th grade	Bachelor/Undergraduate	Master/Doctorate	Total
Hair gel/wax	0	Count	0	3	38	100	55	196
		% within Education	.0%	33.3%	65.5%	70.4%	77.5%	69.5%
	1	Count	2	6	20	42	16	86
		% within Education	100.0%	66.7%	34.5%	29.6%	22.5%	30.5%
Total		Count	2	9	58	142	71	282
		% within Education	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.728[a]	4	.013
Likelihood Ratio	12.456	4	.014
Linear-by-Linear Association	8.952	1	.003
N of Valid Cases	282		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is .61.

Table 3 | Subsample P: Chi-square tests for independence of education and usage of hair gel and/or wax

Hair gel/wax * Education

Crosstab

			Education					
			Pre-school education/no education	Until 9th grade	Until 12th grade	Bachelor/Undergraduate	Master/Doctorate	Total
Hair gel/wax	0	Count	0	3	38	100	55	196
		% within Education	.0%	33.3%	65.5%	70.4%	77.5%	69.5%
	1	Count	2	6	20	42	16	86
		% within Education	100.0%	66.7%	34.5%	29.6%	22.5%	30.5%
Total		Count	2	9	58	142	71	282
		% within Education	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.728[a]	4	.013
Likelihood Ratio	12.456	4	.014
Linear-by-Linear Association	8.952	1	.003
N of Valid Cases	282		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is .61.

minimum expected count is .91.

Table 4 | Sample T: Chi-square tests for independence of age and usage of hair gel and/or wax

Hair gel/wax * Age range

Crosstab

			Age range					
			15-24	25-34	35-44	45-54	>55	Total
Hair gel/wax	0	Count	40	40	32	52	31	195
		% within Age range	81.6%	58.8%	53.3%	85.2%	75.6%	69.9%
	1	Count	9	28	28	9	10	84
		% within Age range	18.4%	41.2%	46.7%	14.8%	24.4%	30.1%
Total		Count	49	68	60	61	41	279
		% within Age range	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.458[a]	4	.000
Likelihood Ratio	22.980	4	.000
Linear-by-Linear Association	.987	1	.321
N of Valid Cases	279		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.34.

Table 5 | Subsample P: Chi-square tests for independence of age and usage of hair gel and/or wax

Hair gel/wax * Age range

Crosstab

			Age range					
			15-24	25-34	35-44	45-54	>55	Total
Hair gel/wax	0	Count	5	5	5	10	5	30
		% within Age range	62.5%	29.4%	27.8%	76.9%	50.0%	45.5%
	1	Count	3	12	13	3	5	36
		% within Age range	37.5%	70.6%	72.2%	23.1%	50.0%	54.5%
Total		Count	8	17	18	13	10	66
		% within Age range	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.246[a]	4	.036
Likelihood Ratio	10.589	4	.032
Linear-by-Linear Association	.974	1	.324
N of Valid Cases	66		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 3.64.

Table 6 | Subsample P: Chi-square tests for independence of age and usage of hair conditioner and/or mask

Hair conditioner/mask * Age range

Crosstab

			Age range					
			15-24	25-34	35-44	45-54	>55	Total
Hair conditioner/mask	0	Count	8	12	14	5	6	45
		% within Age range	100.0%	70.6%	77.8%	38.5%	60.0%	68.2%
	1	Count	0	5	4	8	4	21
		% within Age range	.0%	29.4%	22.2%	61.5%	40.0%	31.8%
Total		Count	8	17	18	13	10	66
		% within Age range	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.144[a]	4	.038
Likelihood Ratio	12.115	4	.017
Linear-by-Linear Association	5.385	1	.020
N of Valid Cases	66		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 2.55.

Table 7 | Sample T: Chi-square tests for independence of shampoo category and hair conditioner and/or mask

Hair conditioner/mask * Shampoo Category

Crosstab

			Shampoo Category			
			Normal	Professional	Pharmaceutical	Total
Hair conditioner/mask	0	Count	149	47	35	231
		% within Shampoo Category	86.6%	69.1%	83.3%	81.9%
	1	Count	23	21	7	51
		% within Shampoo Category	13.4%	30.9%	16.7%	18.1%
Total		Count	172	68	42	282
		% within Shampoo Category	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.153[a]	2	.006
Likelihood Ratio	9.347	2	.009
Linear-by-Linear Association	2.463	1	.117
N of Valid Cases	282		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.60.

Table 8 | Sample T: Chi-square tests for independence of shampoo category and hair gel and/or wax

Hair gel/wax * Shampoo Category

Crosstab

			Shampoo Category			
			Normal	Professional	Pharmaceutical	Total
Hair gel/wax	0	Count	134	31	31	196
		% within Shampoo Category	77.9%	45.6%	73.8%	69.5%
	1	Count	38	37	11	86
		% within Shampoo Category	22.1%	54.4%	26.2%	30.5%
Total		Count	172	68	42	282
		% within Shampoo Category	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.446[a]	2	.000
Likelihood Ratio	23.165	2	.000
Linear-by-Linear Association	4.879	1	.027
N of Valid Cases	282		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.81.

Table 9 | Sample T: Chi-square tests for independence of shampoo category and number of product options indicated

Crosstab

			Shampoo Category			
			Normal	Professional	Pharmaceutical	Total
PROD_TOT	0	Count	30	0	7	37
		% within Shampoo Category	17.4%	.0%	16.7%	13.1%
	1	Count	70	20	12	102
		% within Shampoo Category	40.7%	29.4%	28.6%	36.2%
	2	Count	52	34	17	103
		% within Shampoo Category	30.2%	50.0%	40.5%	36.5%
	3	Count	18	13	6	37
		% within Shampoo Category	10.5%	19.1%	14.3%	13.1%
	4	Count	2	1	0	3
		% within Shampoo Category	1.2%	1.5%	.0%	1.1%
Total		Count	172	68	42	282
		% within Shampoo Category	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.101[a]	8	.003
Likelihood Ratio	31.862	8	.000
Linear-by-Linear Association	5.498	1	.019
N of Valid Cases	282		

a. 3 cells (20.0%) have expected count less than 5. The minimum expected count is .45.

Appendix 12 – Table with hypotheses' results

Hypothesis description		Expected Sign	(Sub)sample	Parameter	t-value	Decision
H1	Attitude towards behavior impacts positively on purchase intention	+	Sample T	0.200	2.698	
			Subsample S	0.118	1.614	
			Subsample P	0.162	2.275	
			Subsample F	0.291	4.771	
H2	Subjective norm impacts positively on purchase intention	+	Sample T	0.270	2.951	
			Subsample S	0.380	4.343	
			Subsample P	0.221	2.510	
			Subsample F	0.325	4.266	
H3	Perceived behavioral control impacts positively on purchase intention	+	Sample T	0.471	4.290	
			Subsample S	0.457	5.566	
			Subsample P	0.465	4.375	
			Subsample F	0.342	3.025	
H4	Past behavior impacts positively on purchase intention	+	Sample T	0.164	2.354	
			Subsample S	0.118	1.903	
			Subsample P	0.221	3.246	
			Subsample F	0.164	2.927	
H5a	Self-concept impacts positively on purchase intention	+	Sample T	-0.011	0.141	
			Subsample S	0.003	0.034	
			Subsample P	0.017	0.285	
			Subsample F	0.176	2.919	
H5b	Self-concept impacts negatively on purchase intention	-	Sample T	-0.011	0.141	
			Subsample S	0.003	0.034	
			Subsample P	0.017	0.285	
			Subsample F	0.176	2.919	